

nanoparticle-encapsulated Taxol for drug delivery in cancer therapy

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SO ~~Oncology Research (1996), 8(7/8), 281-286~~  
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PB Elsevier

DT Journal

LA English

AB Taxol is a novel antitumor alkaloid that has shown clin. activity against several tumors. However, due to its low aqueous solubility, Cremophor EL (polyoxyethylated castor oil) and ethanol are used as excipients in the pharmaceutical drug formulations. These agents are implicated in hypersensitivity reactions. Hence the goal of this work was to design a novel Taxol formulation using polymeric nanoparticles to eliminate the Cremophor EL vehicle for drug delivery. Polyvinylpyrrolidone nanoparticles containing Taxol were prepared by a reverse microemulsion method. The size of the nanoparticles as determined by quasielastic light scattering was found to be between 50 and 60 nm. The antitumor effect of Taxol encapsulated nanoparticles was evaluated in B16F10 murine melanoma transplanted in C57B1/6 mice. The in vivo efficacy of Taxol-containing nanoparticles as measured by reduction in tumor volume and increased survival time was significantly greater than that of an equivalent concentration of free Taxol. These results suggest that encapsulation of Taxol in polymeric nanoparticles could be useful in improving its therapeutic efficacy in treatment of solid tumors.

=> file uspat

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(FILE 'HOME' ENTERED AT 15:15:55 ON 08 AUG 2007)

FILE 'CAPLUS' ENTERED AT 15:16:04 ON 08 AUG 2007

L1 346 S NANOPAR? AND (TAXANE OR PACLITAXEL OR DOCETAXEL OR TAXOL)

L2 83 S L1/TI

=> s 12

1300 NANOPAR?/TI  
154 TAXANE/TI  
181 TAXANES/TI  
328 TAXANE/TI  
((TAXANE OR TAXANES)/TI)  
156 PACLITAXEL/TI  
10 PACLITAXELS/TI  
166 PACLITAXEL/TI  
((PACLITAXEL OR PACLITAXELS)/TI)  
31 DOCETAXEL/TI  
163 TAXOL/TI  
9 TAXOLS/TI  
172 TAXOL/TI  
((TAXOL OR TAXOLS)/TI)

L3 5 (NANOPAR?/TI AND (TAXANE/TI OR PACLITAXEL/TI OR DOCETAXEL/TI OR TAXOL/TI))

=> d 1-5 ti

L3 ANSWER 1 OF 5 USPATFULL on STN

TI Nanoparticulate formulations of docetaxel and analogues thereof

L3 ANSWER 2 OF 5 USPATFULL on STN

TI Process for producing nanoparticles of paclitaxel and albumin

L3 ANSWER 3 OF 5 USPATFULL on STN

TI Process for producing nanoparticles of paclitaxel and albumin

L3 ANSWER 4 OF 5 USPATFULL on STN

TI Formulations of paclitaxel, its derivatives or its analogs entrapped into nanoparticles of polymeric micelles, process for preparing same and the use thereof

L3 ANSWER 5 OF 5 USPATFULL on STN

TI Formulations of paclitaxel, its derivatives or its analogs entrapped into nanoparticles of polymeric micelles, process for preparing same and the use thereof

=> d 5 bib,ab

L3 ANSWER 5 OF 5 USPATFULL on STN

AN 2001:214686 USPATFULL

TI Formulations of paclitaxel, its derivatives or its analogs entrapped into nanoparticles of polymeric micelles, process for preparing same and the use thereof

IN Maitra, Amarnath, Delhi, India  
Sahoo, Sanjeeb Kumar, Delhi, India  
Ghosh, Prasanta Kumar, New Delhi, India  
Burman, Anand C., Ghaziabad, India  
Mukherjee, Rama, Ghaziabad, India  
Khattar, Dhiraj, Ghaziabad, India  
Kumar, Mukesh, Ghaziabad, India  
Paul, Soumendu, Ghaziabad, India

PA Dabur Research Foundation, India (non-U.S. corporation)  
Delhi University, India (non-U.S. corporation)

PI ~~US 6322817~~ B1 20011127

AI US 1999-401927 19990923 (9)  
PRAI IN 1999-26399 19990217  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Page, Thurman K.; Assistant Examiner: Fubara, Blessing  
LREP Ladas & Parry  
CLMN Number of Claims: 32  
ECL Exemplary Claim: 1  
DRWN 4 Drawing Figure(s); 3 Drawing Page(s)  
LN.CNT 586  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB This invention relates to pharmaceutical formulations of paclitaxel, its derivatives or analogs entrapped into nanoparticles of co-polymeric micelles, a process for preparing the same and the use thereof.

=> s 12/ab

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FILE 'CAPLUS' ENTERED AT 15:16:04 ON 08 AUG 2007

L1 346 S NANOPAR? AND (TAXANE OR PACLITAXEL OR DOCETAXEL OR TAXOL)  
L2 83 S L1/TI

FILE 'USPATFULL' ENTERED AT 15:19:21 ON 08 AUG 2007

L3 5 S L2

=> s NANOPAR? AND (TAXANE OR PACLITAXEL OR DOCETAXEL OR TAXOL)

18204 NANOPAR?  
2201 TAXANE  
3046 TAXANES  
4022 TAXANE  
(TAXANE OR TAXANES)  
10624 PACLITAXEL  
163 PACLITAXELS  
10626 PACLITAXEL  
(PACLITAXEL OR PACLITAXELS)  
4599 DOCETAXEL  
31 DOCETAXELS  
4601 DOCETAXEL  
(DOCETAXEL OR DOCETAXELS)  
12623 TAXOL  
366 TAXOLS  
12700 TAXOL

(TAXOL OR TAXOLS)

L4 2528 NANOPAR? AND (TAXANE OR PACLITAXEL OR DOCETAXEL OR TAXOL)

=> s 14/ab

2431 NANOPAR?/AB  
273 TAXANE/AB  
185 TAXANES/AB  
409 TAXANE/AB  
((TAXANE OR TAXANES)/AB)  
370 PACLITAXEL/AB  
96 DOCETAXEL/AB  
335 TAXOL/AB  
15 TAXOLS/AB  
342 TAXOL/AB

((TAXOL OR TAXOLS)/AB)

L5 26 (NANOPAR?/AB AND (TAXANE/AB OR PACLITAXEL/AB OR DOCETAXEL/AB OR TAXOL/AB))

=> d 1-26 ti

L5 ANSWER 1 OF 26 USPATFULL on STN

TI Combinations and modes of administration of therapeutic agents and combination therapy

L5 ANSWER 2 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 3 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 4 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 5 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 6 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 7 OF 26 USPATFULL on STN

TI Methods and compositions for treating proliferative diseases

L5 ANSWER 8 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 9 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 10 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 11 OF 26 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 12 OF 26 USPATFULL on STN

TI Compositions and methods for preparation of poorly water soluble drugs with increased stability

L5 ANSWER 13 OF 26 USPATFULL on STN

TI Paclitaxel-based antitumor formulation

L5 ANSWER 14 OF 26 USPATFULL on STN

TI Combinations and modes of administration of therapeutic agents and combination therapy

L5 ANSWER 15 OF 26 USPATFULL on STN

TI Nanoparticulate delivery systems for treating multi-drug resistance

L5 ANSWER 16 OF 26 USPATFULL on STN

TI Nanoparticulate formulations of docetaxel and analogues thereof

L5 ANSWER 17 OF 26 USPATFULL on STN

TI Process for producing nanoparticles of paclitaxel and albumin

L5 ANSWER 18 OF 26 USPATFULL on STN

TI Tumor targeting drug-loaded particles

L5 ANSWER 19 OF 26 USPATFULL on STN

TI Water soluble chitosan nanoparticle for delivering an anticancer agent and preparing method thereof

L5 ANSWER 20 OF 26 USPATFULL on STN

TI Protein stabilized pharmacologically active agents, methods for the preparation thereof and methods for the use thereof

L5 ANSWER 21 OF 26 USPATFULL on STN

TI Paclitaxel-based antitumor formulation

L5 ANSWER 22 OF 26 USPATFULL on STN

TI Process for producing nanoparticles of paclitaxel and albumin

L5 ANSWER 23 OF 26 USPATFULL on STN

TI Compositions and methods for administration of pharmacologically active compounds

L5 ANSWER 24 OF 26 USPATFULL on STN

TI Formulations of paclitaxel, its derivatives or its analogs entrapped into nanoparticles of polymeric micelles, process for preparing same and the use thereof

L5 ANSWER 25 OF 26 USPATFULL on STN

TI Formulations of paclitaxel, its derivatives or its analogs entrapped into nanoparticles of polymeric micelles, process for preparing same and the use thereof

L5 ANSWER 26 OF 26 USPATFULL on STN

TI Protein stabilized pharmacologically active agents, methods for the preparation thereof and methods for the use thereof

=> d his

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L1 346 S NANOPAR? AND (TAXANE OR PACLITAXEL OR DOCETAXEL OR TAXOL)

L2 83 S L1/TI

FILE 'USPATFULL' ENTERED AT 15:19:21 ON 08 AUG 2007

L3 5 S L2

L4 2528 S NANOPAR? AND (TAXANE OR PACLITAXEL OR DOCETAXEL OR TAXOL)

L5 26 S L4/AB

=> s l5 and bioavail?

33602 BIOAVAIL?

L6 14 L5 AND BIOAVAIL?

=> d 1-14 ti

L6 ANSWER 1 OF 14 USPATFULL on STN

TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 2 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 3 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 4 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 5 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 6 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 7 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 8 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 9 OF 14 USPATFULL on STN  
 TI Novel formulations of pharmacological agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 10 OF 14 USPATFULL on STN  
 TI Nanoparticulate delivery systems for treating multi-drug resistance

L6 ANSWER 11 OF 14 USPATFULL on STN  
 TI Nanoparticulate formulations of docetaxel and analogues thereof

L6 ANSWER 12 OF 14 USPATFULL on STN  
 TI Protein stabilized pharmacologically active agents, methods for the preparation thereof and methods for the use thereof

L6 ANSWER 13 OF 14 USPATFULL on STN  
 TI Compositions and methods for administration of pharmacologically active compounds

L6 ANSWER 14 OF 14 USPATFULL on STN  
 TI Protein stabilized pharmacologically active agents, methods for the preparation thereof and methods for the use thereof

=> d 13 ab

L6 ANSWER 13 OF 14 USPATFULL on STN  
 AB In accordance with the present invention, there are provided compositions and methods useful for the in vivo delivery of substantially water insoluble pharmacologically active agents (such as the anticancer drug paclitaxel) in which the pharmacologically active agent is delivered in the form of suspended particles coated with protein (which acts as a stabilizing agent). In particular, protein and pharmacologically active agent in a biocompatible dispersing medium are subjected to high shear, in the absence of any conventional surfactants, and also in the absence of any polymeric core material for the particles. The procedure yields particles with a diameter of less than

about 1 micron. The use of specific composition and preparation conditions (e.g., addition of a polar solvent to the organic phase), and careful election of the proper organic phase and phase fraction, enables the reproducible production of unusually small nanoparticles of less than 200 nm diameter, which can be sterile-filtered. The particulate system produced according to the invention can be converted into a redispersible dry powder comprising nanoparticles of water-insoluble drug coated with a protein, and free protein to which molecules of the pharmacological agent are bound. This results in a unique delivery system, in which part of the pharmacologically active agent is readily bioavailable (in the form of molecules bound to the protein), and part of the agent is present within.

=> d 13 ibib

L6 ANSWER 13 OF 14 USPATFULL on STN

ACCESSION NUMBER: 2003:81474 USPATFULL

TITLE: Compositions and methods for administration of pharmacologically active compounds

INVENTOR(S): Desai, Neil P., Los Angeles, CA, United States  
Soon-Shiong, Patrick, Los Angeles, CA, United States

PATENT ASSIGNEE(S): American BioScience, Inc., Santa Monica, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6537579	B1	20030325
APPLICATION INFO.:	US 2000-574763		20000519 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 446783		
	Continuation-in-part of Ser. No. US 1999-316642, filed on 21 May 1999		
	Continuation-in-part of Ser. No. US 1998-198082, filed on 23 Nov 1998, now abandoned		
	Division of Ser. No. US 1996-720756, filed on 1 Oct 1996, now patented, Pat. No. US 5916596		
	Continuation-in-part of Ser. No. US 1995-412726, filed on 29 Mar 1995, now patented, Pat. No. US 5560933		
	Continuation-in-part of Ser. No. US 1993-23698, filed on 22 Feb 1993, now patented, Pat. No. US 5439686		
	Continuation-in-part of Ser. No. US 574763		
	Continuation-in-part of Ser. No. US 1997-926155, filed on 7 Sep 1997, now patented, Pat. No. US 6096331		
	Continuation-in-part of Ser. No. US 1994-200235, filed on 24 Feb 1994, now patented, Pat. No. US 5498421		

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LEGAL REPRESENTATIVE:	Reiter, Stephen E., Foley & Lardner	
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EXEMPLARY CLAIM:	1	
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CAS INDEXING IS AVAILABLE FOR THIS PATENT.		